

R E M A R K S

It is respectfully requested that the Examiner enter and consider the changes made in the claims which are indicated in the Listing of Claims set forth in Appendix I attached to this paper. Accordingly, applicants have revised Claim 14 to correct the spelling of "polytetraflouroethylene" and to include the requirements of Claim 19. Correspondingly, Claim 19 has been canceled and Claim 21 has been revised to depend upon Claim 14 instead of Claim 19. No new matter has been added.

The Examiner rejected Claim 14 under 35 U.S.C. §112, ¶2, as being indefinite because the word "polytetraflouroethylene" was misspelled. Applicants' amendment corrects the spelling, and thereby obviates the issue. Withdrawal of the respective rejection is respectfully solicited.

The Examiner indicated that Claim 19 would be allowable if rewritten in independent form. Claim 14 as herewith submitted presents the subject matter of Claim 19 in independent form and Claim 14 should, therefore, now be allowable. Claims 23, 25 and 27 depend upon Claim 14 and incorporate the respective requirements by reference. Claims 23, 25 and 27 should, therefore, also be in condition for allowance.

In light of the foregoing and the attached it is respectfully requested that the rejection of Claims 14, 23, 25 and 27 under 35 U.S.C. §102(b) based on the teaching of *Barker et al.* (US 5,643,695) be withdrawn. Early action by the Examiner would be greatly appreciated by applicants.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees, to Deposit Account No. 11.0345. Please credit any excess fees to such deposit account.

Respectfully submitted,

KEIL & WEINKAUF



Daniel S. Kim

Reg. No. 51,877

1350 Connecticut Ave, N.W.
Washington, D.C. 20036
(202) 659-0100

Encl.: THE LISTING OF CLAIMS (Appendix I)

HBK/BAS

APPENDIX I:

THE LISTING OF CLAIMS:

1. (*canceled*)
2. (*canceled*)
3. (*canceled*)
4. (*canceled*)
5. (*canceled*)
6. (*canceled*)
7. (*canceled*)
8. (*canceled*)
9. (*canceled*)
10. (*canceled*)
11. (*canceled*)
12. (*canceled*)
13. (*canceled*)
14. (*currently amended*) A composition comprising
 - (a) from 1 to 99% by weight of a solid (I) which is selected from a group consisting of compounds Ia, Ib, Ic, mixtures of compounds Ia and Ib, and mixtures of compounds Ia and Ic, wherein the compounds have a primary particle size of from 5 nm to 100 µm, and
which solid (I) is insoluble in a liquid electrolyte suited for use in an electrochemical cell,
 - (b) from 1 to 99% by weight of a polymeric material (II),
wherein
the compound Ia is selected from the group consisting of inorganic oxides, mixed oxides, silicates, sulfates, carbonates, phosphates, nitrides, amides, imides and carbides of the elements of main groups I, II, III and IV and transition group IV of the Periodic Table, polymers selected from the group consisting of polyethylene, polypropylene, polystyrene, polytetraflouoroethylene polytetraflouroethylene, polyvinylidene

fluoride, polyamides and polyimides; dispersions comprising said polymers; and a mixture of two or more thereof; the compound Ib is selected from the group consisting of LiCoO_2 , LiNiO_2 , $\text{LiNi}_x\text{Co}_y\text{O}_2$ and $\text{LiNi}_x\text{Co}_y\text{Al}_z\text{O}_2$, where $0 < x, y, z \leq 1$, Li_xMnO_2 ($0 < x \leq 1$), $\text{Li}_x\text{Mn}_2\text{O}_4$ ($0 < x \leq 2$), Li_xMoO_2 ($0 < x \leq 2$), Li_xMnO_3 ($0 < x \leq 1$), $\text{Li}_x\text{Mn}_2\text{O}_4$ ($0 < x \leq 2$), $\text{Li}_x\text{V}_2\text{O}_4$ ($0 < x \leq 2.5$), $\text{Li}_x\text{V}_2\text{O}_3$ ($0 < x \leq 3.5$), Li_xVO_2 ($0 < x \leq 1$), Li_xWO_2 ($0 < x \leq 1$), Li_xWO_3 ($0 < x \leq 1$), Li_xTiO_2 ($0 < x \leq 1$), $\text{Li}_x\text{Ti}_2\text{O}_4$ ($0 < x \leq 2$), Li_xRuO_2 ($0 < x \leq 1$), $\text{Li}_x\text{Fe}_2\text{O}_3$ ($0 < x \leq 2$), $\text{Li}_x\text{Fe}_3\text{O}_4$ ($0 < x \leq 2$), $\text{Li}_x\text{Cr}_2\text{O}_3$ ($0 < x \leq 3$), $\text{Li}_x\text{Cr}_3\text{O}_4$ ($0 < x \leq 3.8$), $\text{Li}_x\text{V}_3\text{S}_5$ ($0 < x \leq 1.8$), $\text{Li}_x\text{Ta}_2\text{S}_2$ ($0 < x \leq 1$), Li_xFeS ($0 < x \leq 1$), Li_xFeS_2 ($0 < x \leq 1$), Li_xNbS_2 ($0 < x \leq 2.4$), Li_xMoS_2 ($0 < x \leq 3$), Li_xTiS_2 ($0 < x \leq 2$), Li_xZrS_2 ($0 < x \leq 2$), Li_xNbSe_2 ($0 < x \leq 3$), Li_xVSe_2 ($0 < x \leq 1$), Li_xNiPS_2 ($0 < x \leq 1.5$), Li_xFePS_2 ($0 < x \leq 1.5$), $\text{LiNi}_{x-\text{B}}_{1-x}\text{O}_2$ ($0 < x < 1$), $\text{LiNi}_x\text{Al}_{1-x}\text{O}_2$ ($0 < x < 1$), $\text{LiNi}_x\text{Mg}_{1-x}\text{O}_2$ ($0 < x < 1$), $\text{LiNi}_x\text{Co}_{1-x}\text{VO}_4$ ($1 \geq x \geq 0$), $\text{LiNi}_x\text{Co}_y\text{Mn}_z\text{O}_2$ ($x+y+z=1$), LiFeO_2 , LiCr-TiO_4 , $\text{Li}_{\text{a}}\text{M}_{\text{b}}\text{L}_{\text{c}}\text{O}_{\text{d}}$ ($1.15 \geq \text{a} > 0$; $1.3 \geq \text{b+c} \geq 0.8$; $2.5 \geq \text{d} \geq 1.7$; M = Ni, Co, Mn; L = Ti, Mn, Cu, Zn, alkaline earth metal), $\text{LiCu}_{x^{\text{II}}\text{Cu}_y^{\text{III}}\text{Mn}_{(2-(x+y))}\text{O}_4}$ ($2 > x+y \geq 0$), LiCrTiO_4 , $\text{LiGa}_x\text{Mn}_{2-x}\text{O}_4$ ($0.1 \geq x \geq 0$), poly(carbon sulfides), V_2O_5 ; and a mixture of two or more thereof,

the compound Ic is selected from the group consisting of lithium, a lithium-containing metal alloy, micronized carbon black, natural and synthetic graphite, synthetically graphitized carbon powder, a carbon fiber, titanium oxide, zinc oxide, tin oxide, molybdenum oxide, tungsten oxide, titanium carbonate, molybdenum carbonate, zinc carbonate, $\text{Li}_x\text{M}_y\text{SiO}_z$ ($1 > x \geq 0.1 > y \geq 0$, $z > 0$), Sn_2BPO_4 , conjugated polymers, lithium metal compounds; and a mixture of two or more thereof,

and wherein

where the solid (I) is the mixture of Ia and Ib, the composition further comprises from 0.1 to 20% by weight, based on the total weight of components I and II, of conductive carbon black; and where the solid (I) is the mixture of Ia and Ic, the composition further comprises up to 20% by weight, based on the total weight of the components I and II, of conductive carbon black;

and wherein said polymeric material (II) comprises

from 1 to 100% by weight of a polymer or copolymer (IIa) which has, as part of the polymer chain, at the end(s) of

said chain and/or laterally on said chain, reactive groups (RG) which are capable of crosslinking reactions under the action of heat and/or UV radiation, and
from 0 to 99% by weight of at least one polymer or copolymer (IIb) which is free of reactive groups (RG);
and wherein the polymer (IIa) has, as reactive groups (RG),
at least one reactive group RGa which in the triplet excited state under the action of heat and/or UV radiation is capable of hydrogen abstraction, and
at least one group RGb which is different from RGa and is coreactive with RGa,
with at least one group RGa and at least one group RGb being present on average over all polymer molecules,
wherein the polymer (IIa) is a polymer or copolymer of an acrylate or methacrylate and has reactive groups RGa which comprise benzophenone units and reactive groups RGb which comprise dihydroncyclopentadiene units.

15. (canceled)
16. (canceled)
17. (canceled)
18. (canceled)
19. (canceled)
20. (previously presented) The composition as claimed in claim 14, wherein the polymer (IIb) is selected from the group consisting of
a polymer or copolymer of vinyl chloride, acrylonitrile, vinylidene fluoride;
a copolymer of vinyl chloride and vinylidene chloride, vinyl chloride and acrylonitrile, vinylidene fluoride and hexafluoropropylene, vinylidene fluoride and hexafluoropropylene;
a terpolymer of vinylidene fluoride and hexafluoropropylene together with a member of the group consisting of vinyl fluoride, tetrafluoroethylene and trifluoroethylene.
21. (currently amended) The composition as claimed in claim 19 14, wherein the polymer (IIb) is a copolymer of vinylidene fluoride and hexafluoropropylene.

22. (*previously presented*) A composite comprising at least one first layer and at least one second layer, wherein the first and the second layer are obtained by crosslinking a composition as defined in claim 14, and wherein the first layer comprises the compound Ib or the compound Ic, and the second layer comprises the compound Ia and is free of the compounds Ic and Ib.
23. (*previously presented*) A method of producing a crosslinked composition which comprises crosslinking the composition defined in claim 14 thermally or by irradiation with ionic or ionizing radiation, an electron beam, UV or visible light, by electrochemically induced polymerization or by ionic polymerization.
24. (*previously presented*) A method of producing the composite defined in claim 22 which comprises
 - (I) producing the at least one first layer by crosslinking the composition comprising the compound Ib or the compound Ic thermally or by irradiation with ionic or ionizing radiation, an electron beam, UV or visible light, by electrochemically induced polymerization or by ionic polymerization,
 - (II) producing the at least one second layer by crosslinking the composition comprising the compound Ia and being free of the compounds IB and Ic thermally or by irradiation with ionic or ionizing radiation, an electron beam, UV or visible light, by electrochemically induced polymerization or by ionic polymerization, and
 - (III) combining the at least one first layer and the at least one second layer by means of a conventional coating process.
25. (*previously presented*) A solid selected from the group consisting of an electrolyte, a separator, an electrode, a sensor, an electrochromic window, a display, a capacitor and an ion-conducting film, which solid comprises the crosslinked composition obtained by the method of claim 23.
26. (*previously presented*) A solid selected from the group consisting of an electrolyte, a separator, an electrode, a sensor, an electrochromic window, a display, a capacitor and an ion-conducting film, which solid comprises the composite defined in claim 22.
27. (*previously presented*) An electrochemical cell comprising the solid electrolyte, the separator or the electrode defined in claim 25.

28. (*previously presented*) An electrochemical cell comprising the solid electrolyte, the separator or the electrode defined in claim 26.
29. (*canceled*)